

U.S. Patent Application No. 10/795,968
Amendment dated June 28, 2005
Reply to Office Action dated March 31, 2005

REMARKS/ARGUMENTS

Reconsideration and continued examination of the above-identified application are respectfully requested.

The amendment further defines what the applicant considers to be the invention. The test conditions in claim 36 have been clarified and are fully supported by the present application. The remaining amendments are fully supported, for instance, at pages 8-10 of the present application. Accordingly, no questions of new matter should arise, and entry of the amendment is respectfully requested.

At page 2 of the Office Action, the Examiner rejects claims 36-43, 48, 49, 50, 51, 53, 54, 55, 56, 58, 59, 60, and 61 under 35 U.S.C. §102(b) as being anticipated by Chang (U.S. Patent No. 5,448,447). The Examiner asserts that Chang discloses a flaked niobium powder, which can be nitrogen doped and agglomerated. The Examiner asserts that the limitations of claims 36-42, 48, and 49, which are directed to the characteristics of the powder post-sintering, are not given weight to the claims.

The Examiner further believes that the subject matter of claims 53-56 would be inherent in Chang due to the flake morphology of Chang or the processing conditions of Chang. The Examiner further believes that the subject matter of claim 58 would be inherent in Chang due to the flake morphology of Chang. For the following reasons, this rejection is respectfully traversed.

Claim 36 of the present application recites a niobium powder, which is characterized by sintering the niobium powder at a temperature of 1100° C for 10 minutes and anodized using a formation voltage of 20 Vf at 60° C, and which has a capacitance of at least 65,000 CV/g and a DC leakage of less than 5.0 nA/CV. The remaining claims are directly or indirectly dependent on claim 36. In the Office Action, the Examiner states that the limitations of claims 36-42, 48, and 49,

U.S. Patent Application No. 10/795,968
Amendment dated June 28, 2005
Reply to Office Action dated March 31, 2005

which are directed to characteristics of the powder post-sintering, are not given weight to the claims. The Examiner's decision not to give weight to the electrical characteristics is respectfully traversed and is inconsistent with the PTO's previous treatment of such claims, especially in this technology area. Moreover, this very same Examiner previously allowed claims with respect to tantalum powder having only electrical properties. In particular, the Examiner's attention is drawn to U.S. Patent No. 6,193,779 B1, in particular claim 7. In fact, claim 36 of the present application provides even more test standards to permit comprehension of the electrical properties.

Thus, it is clear that the PTO has given weight in the past to such properties, and the applicants respectfully request that weight be given to these claims out of fairness and for consistency's sake. Also, capacitance is a parameter used to describe powders in the capacitor industry. This is one of the major parameters used in the industry.

Moreover, Chang relates primarily to tantalum powders. All of the examples of Chang relate to tantalum powders and not a single example of Chang relates to niobium powders. While Chang does mention that niobium metal is part of the disclosure of Chang, it is respectfully submitted that all discussions of Chang and the examples primarily relate to tantalum powder. In fact, Example 8, which is specifically referred to and relied upon by the Examiner, relates to tantalum powder. To further assist the Examiner on this matter, the Examiner's reference is made to Example 9 of Chang which states that the "same high surface area powder utilized in Example 8 was heat treated, deoxidized, leached, and dried in accordance with the procedures of Example 8." Then, Example 9 indicates that this powder is "dried tantalum base material." Thus, it is clear that Example 8 relates to tantalum powder and not niobium powder. In addition, as presently understood by those skilled in the art, niobium and tantalum are not interchangeable. If this was the case, niobium would totally replace tantalum in the capacitor industry since niobium is cheaper and

U.S. Patent Application No. 10/795,968
Amendment dated June 28, 2005
Reply to Office Action dated March 31, 2005

is considered more readily available. However, to the contrary, the capacitor industry has not used niobium as a replacement for tantalum because they are not fully interchangeable.

Furthermore, throughout Chang, there is a teaching that the capacitor grade powder of Chang is for purposes of anodizing at voltages of 100 volts and higher. *See* col. 1, lines 10-15. This same teaching is present, for instance, at col. 2, lines 55-59. A similar teaching can be found at col. 3, lines 5-12, as well as col. 3, lines 50-59. In addition, each of the examples in Chang discuss anodizing at 100 volts or higher. *See* col. 8. Thus, it is clear that Chang's powders were made for high formation voltages, and Chang did not even teach or suggest powders which are capable of being useful at formation voltages below 100 volts. As can be seen in claim 36 of the present application, the niobium powders have a capacitance using a formation voltage significantly below 100 volts and, in particular, claim 36 provides a test standard of 20 volts. Accordingly, it is clear that claim 36 and the claims dependent thereon are not taught or even suggested by Chang.

With respect to the Examiner's assertion that the remaining limitations of the present application relating to flow rate and density, as well as aspect ratio, again, the applicants point out to the Examiner that Chang primarily relates to tantalum powder and only exemplifies tantalum powder and, therefore, it would be improper to rely on tantalum powder to assert that niobium characteristics are inherent or obvious. Clearly, these characteristics cannot be inherent since Chang uses tantalum powder. Thus, the Examiner's inherency argument is improper.

For these reasons, this rejection should be withdrawn.

At the bottom of page 3 of the Office Action, the Examiner rejects claim 52 under 35 U.S.C. §103(a) as being unpatentable over Chang. The Examiner asserts that Chang is silent as to the range of nitrogen doping, but that this claim would be obvious. For the following reasons, this rejection is respectfully traversed.

U.S. Patent Application No. 10/795,968
Amendment dated June 28, 2005
Reply to Office Action dated March 31, 2005

Claim 52 is dependent on claim 36, and for the reasons set forth above, the subject matter of claim 52 would not be obvious. Accordingly, for these reasons, this rejection should be withdrawn.

At page 4 of the Office Action, the Examiner rejects claims 57 and 62-64 under 35 U.S.C. §103(a) as being unpatentable over Chang. The Examiner asserts that Chang discloses the invention substantially as claimed, but is silent as to the range of particle size. The Examiner does assert that Chang discloses a particle size of less than 40 mesh and gives an example of unagglomerated powder referring to Example 8. For the following reasons, this rejection is respectfully traversed.

As discussed above, Example 8 of Chang specifically and only relates to tantalum powder. Thus, the Examiner's reliance on this example is not proper. It would be unfair to say that the characteristics of tantalum powder disclosed in Chang automatically apply to niobium powder, especially when Example 8 does not relate to niobium powder and Chang does not specifically make niobium powder. Accordingly, for these reasons, this rejection should be withdrawn.

At pages 5-6 of the Office Action, the Examiner rejects the claims for obviousness-type double patenting in view of claims from U.S. Patent Nos. 6,051,044, 6,165,623, 6,375,704 B1, 6,420,043 B1, and 6,702,869 B2. For the following reasons, this rejection is respectfully traversed.

Submitted with this response is a terminal disclaimer in view of these patents. Accordingly, for these reasons, this obviousness-type patenting rejection in view of five patents should be withdrawn.

At page 6 of the Office Action, the Examiner then rejects the claims in view of co-pending Application No. 10/770,895. The applicants note that the application number set forth in paragraphs 14 and 15 of the Office Action are the same application numbers, and it is not clear if the Examiner intended this. Clarification is respectfully requested.

U.S. Patent Application No. 10/795,968
Amendment dated June 28, 2005
Reply to Office Action dated March 31, 2005


Since this is a provisional rejection under the judicially-created doctrine of obviousness-type double patenting, the applicants believe that this matter is best addressed upon the allowance of the present application and the examination of co-pending Application No. 10/770,895. The applicants note that this proposed treatment of this provisional rejection is acceptable under the guidelines of the MPEP, especially when all other remaining matters are resolved in the present application.

CONCLUSION

In view of the foregoing remarks, the applicants respectfully request reconsideration of this application and the timely allowance of the pending claims.

If there are any other fees due in connection with the filing of this response, please charge the fees to Deposit Account No. 03-0060. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such extension is requested and should also be charged to said Deposit Account.

Respectfully submitted,


Luke A. Kilyk
Reg. No. 33,251

Atty. Docket No. 99066CON2 (3600-198-02)
KILYK & BOWERSOX, P.L.L.C.
53 A East Lee Street
Warrenton, VA 20186
Tel.: (540) 428-1701
Fax: (540) 428-1720